

IN THE CLAIMS:

Please cancel all of the claims presently in the application and substitute new Claims 23-46 as follows:

23. (New) A method of producing a video screen hologram in which a real video screen is illuminated by narrowband light to generate a hologram of the real video screen, a plurality of individual recordings being made, in each case only a partial area of the real video screen being illuminated, so that a video screen hologram of the entire video screen is obtained by a composition of the individual recordings, wherein illumination of the video screen is performed using a scanning pulsed laser beam.

24. (New) The method according to Claim 23, wherein the pulse duration is dimensioned such that the movement of the laser beam over the video screen has substantially no effect on interference of the light waves in the hologram.

25. (New) The method according to Claim 23, wherein the partial areas of the video screen have a size that corresponds to image pixels.

26. (New) The method according to Claim 23, wherein the lumination takes place by means of a pulsed diode-pumped solid-state continuous-wave laser.

27. (New) The method according to Claim 23, wherein a frequency conversion takes place in one or several of the wavelength ranges red, green, blue.

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28. (New) The method according to Claim 23, wherein a contact hologram or a video screen plane hologram is generated.

29. (New) The method according to Claim 24, wherein a contact hologram or a video screen hologram is produced.

30. (New) The method according to Claim 23, wherein a transmission hologram or a reflection hologram is produced.

31. (New) The method according to Claim 23, wherein laser beams of a coherence length are generated which is greater than a difference between light paths of the object beam and the reference beam.

32. (New) The method according to Claim 24, wherein a scanning rate and a pulse duration of scanning pulsed laser are mutually coordinated such that the movement of the laser beam during a pulse is smaller than 1/10 of the wavelength.

33. (New) The method according to Claim 23, wherein a repeated scanning of the video screen surface takes place by means of a respectively phase-shifted laser beam.

A 34. (New) The method according to Claim 23, wherein distribution of the lumination in the hologram is measured to correct lumination in a subsequent lumination cycle.

35. (New) The method according to Claim 23, wherein plural luminations are carried out with mutually perpendicularly polarized energy beams to produce two mutually independent screen images in the hologram.

36. (New) A device for producing a video screen hologram, having a narrowband light source for illuminating a real video screen, wherein:

the light source is arranged such that the light emanating from the video screen is superimposed with a reference beam in order to produce a hologram of the video screen;

a scanning device is provided for guiding light radiation emanating from the light source over the video screen; and

the light source generates pulsed light radiation.

37. (New) The device according to Claim 36, wherein the light source simultaneously generates red, green and blue laser radiation.

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38. (New) The device according to Claim 36, wherein the light source comprises a laser system, having a laser beam source having a pulsed q-switched single-frequency IR-laser oscillator, a frequency conversion device, and an optical parametric oscillator.

39. (New) The device according to Claim 38, wherein the laser beam source comprises a laser amplifier connected behind the q-switched single-frequency IR laser oscillator.

40. (New) A video screen hologram comprising a holographic recording material in which a real video screen is stored as a hologram, wherein:

the video screen hologram comprises a plurality of individual recordings, in each of which a partial area of the real video screen is imaged as a hologram, an entire image of the whole video screen resulting from assembled or superimposed individual recordings; and

the individual recordings are generated by illuminating the video screen by means of a scanning pulsed laser beam.

41. (New) A laser system for producing video screen holograms by means of RGB beams, having a laser beam source for generating laser radiation, a frequency conversion device, and an optical parametric oscillator, wherein the laser beam source comprises a pulsed q-switched single-frequency IR laser oscillator.

42. (New) The laser system according to claim 41, wherein the laser beam source comprises a laser amplifier connected behind a q-switched single-frequency IR laser oscillator.

43. (New) A video screen hologram comprising a holographic recording material in which an image of a real video screen is stored as a hologram, wherein:

the video screen hologram comprises a plurality of individual recordings, each of which contains a holographic image of a partial area of the real video screen; and

an entire image of the whole video screen is formed from assembled or superimposed individual recordings.

44. (New) A method of generating a video screen hologram, comprising:

illuminating a real video screen with narrow band light by successively illuminating partial areas of the real video screen;

AI recording a plurality of individual holographic images in a recording medium, each of which covers only a single partial area of the real video screen, said individual holographic images collectively covering the entire real video screen; and

forming a composite of said individually recorded holographic images to generate a video screen hologram of the entire real video screen;

wherein illumination of the video screen is performed using a scanning pulsed laser beam.

45. (New) A device for recording a video screen hologram in a recording medium, comprising:

~~a laser beam source comprising a q-switched single-frequency IR~~
laser oscillator for generating laser radiation; and

a scanning device for causing laser radiation from said laser beam source to scan a surface of a real video screen, sequentially illuminating successive partial areas thereof, whereby a plurality of holographic images are formed in said recording medium, each covering a single one of said partial images.

46. (New) Apparatus for producing a video screen hologram, comprising:

a narrowband light source arranged to illuminate a real video screen, such that light emanating from said video screen is superimposed with a reference beam so as to generate a hologram of the video screen; and

a scanning device for guiding light radiation from the light source over a surface of the video screen;

wherein, the light source generates pulsed light radiation.

IN THE ABSTRACT:

Please substitute the new Abstract of the Disclosure submitted herewith on a separate page for the original Abstract presently in the application.